

REMARKS

Reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

By this amendment claim 1, 4 and 6 have been amended and claim 3 has been cancelled. The amendments to claim 1 are supported in the specification as-filed and also in now-cancelled claim 3. The claims presently pending before the Examiner are 1, 2, 4-11 and 13. Claims 12 and 14-17 stand withdrawn.

The Examiner has rejected claims 1-11 and 13 under 35 USC §102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over the published US application to Rosenbaum 2002/0005010 as evidenced by <http://www.sea-doo.net/techarticles/loil.htm>; February 2, 2003; Robert Verret. These rejections are respectfully traversed.

While the Rosenbaum reference discloses at paragraph [0020] thereof that the fuel gas for tools may additionally contain a lubricant, for example, one based on a mineral oil or a silicone oil for lubricating the valve devices necessary for introducing the fuel gas into the combustion chamber, or the piston or similar moving parts in the equipment. However, this cannot be considered to comprise a disclosure or teaching of the specific lubricant used according to the claimed invention, namely, the branched isomer of an alkane having 9 to 16 carbon atoms.

The reference to a 2-stroke internal combustion engine in this section of Rosenbaum also does not provide such a disclosure. This applies as well to the additional reference cited by the examiner, namely the article by Robert Verret and the fact that Motorcraft sells three grades of 2-stroke oil 5W-20, 5W-30 and 10W-30, having boiling points of 185°C, 210°C and 226°C, respectively.

The article by Verret does not disclose the use of a branched isomer of an alkane having 9 to 16 carbon atoms as a lubricant that is combustible without leaving a residue. In fact, the Verret reference discloses that 2-stroke engine oils are composed of a **base oil plus an additive package**. The additive package is necessary to prevent the familiar combustion residues, necessarily produced during the burning of the base oil, from depositing on the inner surfaces of the engine. Specific reference may be made to the first paragraph in the section entitled "*Additives*" of the Verret article, which states as follows:

"Additives for 2-stroke oils fall into several general categories: Detergent/Dispersants, Antiwear agent,s Biodegradability components, and antioxidants. Since the lubricating oil must burn as part of the combustion process in a 2-stroke engine, the residue resulting from this combustion process must be swept away after each firing stroke. If not, the residue (varnish, lacquer and other heavy hydrocarbon compounds) would build up and plug the exhaust port and stick the rings and power valve(s). Detergent/dispersants must be added to the oil to prevent this problem."

The Detergent/Dispersants referred to in Verret are stated to be manufactured from compounds of calcium and magnesium.

Therefore, Verret does not teach, disclose or suggest the use of a branched isomer of an alkane having 9 to 16 carbon atoms as a lubricant. The foregoing is also applicable with respect to the Examiner's reference to the Motocraft 2-stroke oil grades. Accordingly, amended independent claim 1 distinguishes over the art and is novel in the sense of §102(b). Thus, this rejection should be withdrawn since a *prima facie* case of anticipation has not been established.

The claimed subject-matter is also unobvious over the art. As can be seen from the specification, the technical problem underlying the present invention is to provide a propellant for internal combustion-operated tools which are based on the use of combustible gases. The

propellant includes a lubricant, which solves the problem of the prior art propellants of this type, namely, that upon the combustion of the propellant the residues produced by the lubricant remain largely in the combustion chamber of the tool and tend, over time, to bind to the abrasives. The abrasives arise during the operation of the tools, due to wear of the sealing materials in the metering valves and also other mechanical components, as well as dust particles, which are introduced together with the air required for combustion.

As a result thereof, incrustations are formed on the surfaces of the metering valves, the fuel pipelines and/or the walls of the combustion chamber, which affect the trouble-free operation of the tools under consideration. Since a service life of 500,000 setting processes of the fastening elements is the desired goal in the case of such fuel-driven tools, there must not be, at least in principle, any deposition during this period of lubricant or abrasion wear residue within the combustion space under the expected operating conditions. Air temperatures of 10°C to 50°C, and setting rates of the fastening elements of 10 items per day up to 1,000 items per hour are the expected conditions.

Therefore, there remains the problem that with the propellants for the internal combustion-operated tools based on combustible gases containing the usual lubricants, such as those used in 2-stroke engines, residues and incrustations are produced on the inner surfaces of the tool. Specifically, on the combustion chamber and the piston. As a result, the useable operating time of the tools between any purification steps is brief and unsatisfactory.

Applicant has unexpectedly found that it is possible to solve this problem by the propellant defined in the amended claim 1, namely, a propellant based on combustible gases which contain as a lubricant at least one isoparaffin, namely at least one branched isomer of an alkane with 9 to 16

carbon atoms having a boiling point ranging from 120°C to 250°C.

One of ordinary skill in the art having knowledge of the references applied by the Examiner would not consider that this combination of claimed ingredients would result in a propellant that could be used for the above-stated periods of times and numbers of setting rates of fastening elements without leaving any residue on the internal surfaces of the tool, namely, the metering valves, the pipelines and/or the walls of the combustion chamber. The skilled person certainly would not consider the use of the lubricants referred to in the article by Verret, because those lubricants are used in a 2-stroke fuel, which is a liquid gasoline and not a combustible gas, such as is used in the claimed propellant, which may consist of propane, n-butane, isobutene, propylene, propadiene, dinitrogen monoxide, nitromethane, dimethyl ether and methylacetylene.

Furthermore, one of ordinary skill in the art from a reading of the article by Verret would not be taught to use as a lubricant in a propellant for internal combustion-operated tools, at least one branched isomer of an alkane having 9 to 16 carbon atoms without the presence of the additive package which is considered absolutely necessary to prevent the burning of the fuel comprising the lubricant residues which build-up on the inside surfaces of the tool.

Therefore, the skilled person would, based on the teaching of references cited by the examiner, be taught or led away from the invention as claimed. Thus, since the claims distinguish over the combination of references applied by the Examiner, the §103(a) rejection has been overcome and should be withdrawn.

Accordingly, the issuance of a Notice of Allowance is solicited.

Please charge any fees which may be due to our Deposit Account No. 01-0035.

Respectfully submitted,



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